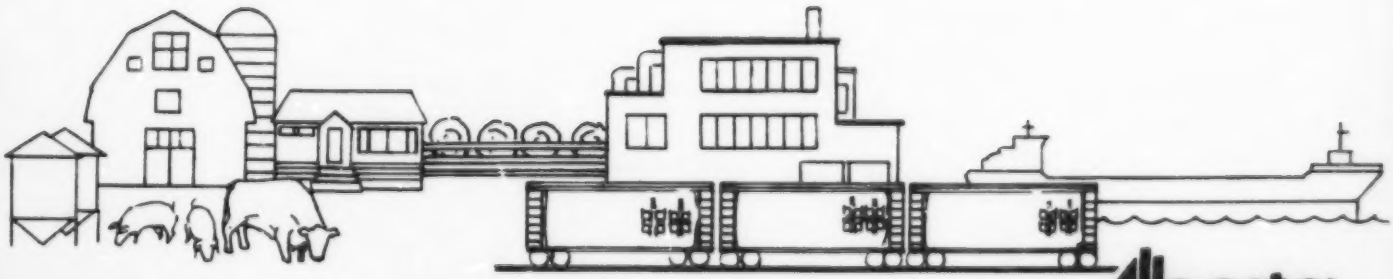
Freedom To Choose

The way to a more market responsive, cost effective grain handling and transportation system.



Alberta
AGRICULTURE

GRAIN HANDLING AND TRANSPORTATION: FREEDOM TO CHOOSE

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EXECUTIVE SUMMARY

Amongst Western Canada's objectives for change in federal agricultural policy, those regarding grain handling and transportation are of primary importance. In this document Alberta Agriculture identifies grain handling and transportation policy objectives appropriate for Western Canada, and presents a proposal on the approach required to achieve those objectives.

Objectives

Using as a framework various principles guiding the current federal-provincial domestic agriculture policy reviews,* it is submitted that Western Canada's objectives for grain handling and transportation policy are:

1. To remove the distortion from domestic grain prices.
2. To direct support measures toward being production and trade neutral and conducive to environmental sustainability.
3. To establish legislative and regulatory structures which provide for the progressive evolution of a more market responsive, cost effective grain handling and transportation system.
4. To develop legislative and regulatory structures which improve Canadian farmers' ability to compete in the global marketplace.

While it is recognized that minor improvements in grain handling and transportation efficiency can occur without a change in the method of payment, no improvement of any significance can occur until farmers face the impact of paying full transportation costs, until they have the freedom to choose transportation modes for their product, and until they have the freedom to decide how to spend the Crow Benefit, to which they are entitled. Therefore, the proposal presented in this document focuses on a buy out of the Crow Benefit and on revisions to the Western Grain Transportation Act (WGTA) rate structure and to regulations which hamper efficiency in the current grain handling and transportation system.

*See Appendix A for the federal-provincial review principles upon which Western Canada's objectives have been built.

Crow Benefit Buy Out

The Federal Government is committed to paying the railways the Crow Benefit — approximately $720 million per year — into perpetuity. It is proposed that the Federal Government buy out this commitment from the historical beneficiaries of the Crow Benefit, i.e., landowners within the Canadian Wheat Board (CWB) designated area.

It is proposed that registered Federal Government bonds be used as the buy out mechanism. The bonds, redeemable at the end of a 15 year buy out period, along with an annual cash stream, would be issued to the landowners. The Federal Government's financial commitments would be:

1. To make an annual or lump sum contribution to a bond redemption fund, securing the face value of the bonds to be paid to the bondholders at the end of the 15 year buy out period. The face value would offset the anticipated decline in land prices resulting from the buy out.
2. To provide an annual cash stream to the bondholders over the 15 year period to replace the benefits they currently accrue through payment of the Crow Benefit to the railways. The bond could be structured to provide larger cash streams in the first five years, thus providing adjustment funds until the benefits of improved transportation efficiencies begin to show up in the form of reduced freight rates.

Following the buy out period, returns to the bondholder from investing the face value of the bond would replace the annual cash stream.

A 15 year buy out through payment of the net present value of the Crow Benefit (approximately $7.2 billion) would not require funds beyond the Federal Government's present commitment. As well, the Federal Government's Crow Benefit commitment would cease at the end of the 15 year buy out period. Therefore, this component of the proposal provides a "sunset clause" on the Federal Government's Crow Benefit commitment while furnishing a financial offset to farmers as they take on payment of the full cost of rail transportation.

The average bond entitlement across the CWB designated area would be approximately $86 per acre. Individual entitlements would be calculated on the sum of the landowner's arable acres, adjusted for both productivity and distance to port, multiplied by the average entitlement per acre. The source of arable acreage data would be municipal taxation records.

Through the issue of a bond, a farmer's asset values would be protected. More important, the farmer would have a number of choices with regard to the disposition of his entitlement. The bond could be traded on a recognized securities exchange and, therefore, could be used to reduce debt or cover urgent farm financial needs. Or, the farmer could choose to invest the capital value of his bond in options such as diversification in crops and in livestock. Alternately, the farmer could simply accept the annual cash stream from the bond to pay for all or part of the increased freight costs he faces.

Similar to other changes imposed by governments, such as taxation rules, expropriations and trucking regulations, contracts and rental arrangements would have to be revised by landowners in order to reflect the increase in transportation costs payable by renters. As with all such assets, rental charges would decline to reflect the new productive capacity of the land.

Revision of Legislation and Regulations

The second component of the proposal focuses on a revision of the WGTA rate structure, as well as on regulatory changes required both to promote efficiency in the grain handling and transportation system and to provide price signals to transport users.

Although the current distance-based rate structure would be retained, the proposal suggests a premium charge to users of high cost branch lines. As well, the railways would be provided greater freedom to negotiate incentive rail rates for the movement of grain. This would provide them with greater ability to reduce costs and enable them to pass cost savings to farmers. As an incentive to increase cost saving measures, the railways also would be provided an opportunity to retain cost savings over a longer time period. In exchange, grain shippers' contributions to the railways' constant costs would be reduced to more accurately reflect contributions from other railway traffic.

Effects of Implementation

An economic analysis was conducted to examine the impacts that would have occurred had the proposal been in effect in Western Canada between 1980 and 1988. Supplementary studies examined other potential benefits. The results of the studies indicate that not only Western Canada, but all of Canada, would have enjoyed substantial economic benefits. A summary of the major benefits follows.

Summary of Benefits from Proposal Implementation

Objective 1: To remove the distortion from domestic grain prices.

Benefit: Enhancement, expansion and increased competitiveness of the livestock and other value added sectors would result from the reduction in the domestic price of grains and oilseeds.

Objective 2: To direct support measures toward being production and trade neutral and conducive to environmental sustainability.

Benefits: Provincial offset programs would not be needed to offset the deleterious effect of the current method of payment, saving $80 million to $90 million per year.

A buy out could move the Crow Benefit from being considered a trade-distorting subsidy to being a permitted or minimally disciplined policy. If considered an adjustment program, the buy out could also be excluded from countervailing duty. U.S. quotas should not be affected as a result of the provisions of the buy out bond.

Environmental sustainability would be promoted since increased forage production would reduce soil degradation and reduce the incentive to expand grain production onto marginal lands and wetlands.

Objective 3: To establish legislative and regulatory structures which provide for the progressive evolution of a more market responsive, cost effective grain handling and transportation system.

Benefit: By accelerating the pace of branch line rationalization, improving the utilization of the grain hopper car fleet, and increasing productivity, net savings in transportation costs of over $100 million per year could be expected ten years after implementation of the proposal. In 20 to 30 years, these savings would likely double.

Objective 4: To develop legislative and regulatory structures which improve Canadian farmers' ability to compete in the global marketplace.

Benefits: Rural communities would have a more secure and viable economic base due to the agricultural diversification which would occur in response to the proposed changes. If the proposal had been in effect in Western Canada between 1980 and 1988:

—A $765 million to $834 million increase in Canada's annual GDP and the addition of 3,500 - 6,300 jobs to the annual employment base would have resulted.

—In response to lower feed costs, Western Canada's beef cow herd would have grown by 11 percent or 280,000 head while sow numbers would have increased by 5 percent or 18,000 sows. (The primary market for this increase in livestock production would be the expanding markets in the Pacific Rim and western U.S.A. Therefore, the increase would not be detrimental to the livestock industry in Central and Eastern Canada.)

—Western Canada's total annual livestock revenue would have increased by 17 percent or $589 million.

—Western Canada's aggregate annual grains and oilseeds revenue net of rail transportation costs would have increased by 2 percent or $105 million.

—Western Canada's annual primary agriculture sector revenue would have risen by 8 percent or $695 million.

Conclusion

By adopting the changes proposed in this document, the Federal Government would provide Western Canada with tremendous economic development potential. As the entrepreneurial spirit of Western Canada's agriculture and food industry realized this potential, the entire Canadian economy would benefit through increased employment and economic growth.

To the individual Western Canadian farmer and his community, implementation of the proposal would provide increased farm income

stability through diversification. Implementation would also offer the farmer freedom to choose among the alternative modes of transportation in securing access to his chosen market, and freedom to choose how he uses the Crow Benefit. Control and responsibility for decisions in resource allocation, production and marketing would be returned to the farmer, while allowing him to base his decisions on the returns from the market and on a more stable international trading environment.

INTRODUCTION

A federal-provincial review of Canadian domestic agriculture policies was initiated by the federal and provincial ministers of agriculture in August 1989 at Prince Albert, Saskatchewan. Agricultural transportation policies were identified as a component for review. The terms of reference and the principles guiding the overall review process were made public in January 1990. At the same time a committee was appointed and mandated to review and examine issues for change in agricultural transportation policies, legislation, regulations and programs. The Transportation Committee's current mandate ended on June 30, 1990, although the review process will continue until the end of December 1990.

The current mandate of the Transportation Committee does not extend to making recommendations on agricultural transportation policy nor does it extend to the development of proposals to change existing policy. However, the principles guiding the reviews overall as well as those specifically guiding the Transportation Committee review provide a framework which governments can use to establish their own objectives for future agricultural transportation policy. In this document Alberta Agriculture identifies grain handling and transportation policy objectives appropriate for Western Canada, and presents a proposal on the approach required to achieve those objectives.

GRAIN HANDLING AND TRANSPORTATION POLICY OBJECTIVES

Built upon the framework provided by the principles being used in the overall federal-provincial reviews and in the agricultural transportation policy review (see Appendix A), Western Canada's grain handling and transportation policy objectives are:

1. To remove the distortion from domestic grain prices.
2. To direct support measures toward being production and trade neutral and conducive to environmental sustainability.
3. To establish legislative and regulatory structures which provide for the progressive evolution of a more market responsive, cost effective grain handling and transportation system.
4. To develop legislative and regulatory structures which improve Canadian farmers' ability to compete in the global marketplace.

These objectives address much of the controversy surrounding how the current grain handling and transportation system negatively affects the competitiveness and efficiency of Western Canadian agriculture. Impediments to achievement of this competitiveness and efficiency are:

—Payment of the Crow Benefit to the railways has distorted and raised the domestic price of grain and has retarded expansion, competitiveness and diversification in Western Canada's agriculture and food industries.

—Compensation programs in place to offset the grain price distortion created by the Crow Benefit payment to the railways have not only added to provincial deficits, but have come under the scrutiny of our trading partners.

—The payment of the Crow Benefit on selected commodities and products discriminates against all other commodities grown in Western Canada, e.g., forages and silage.

—The perpetual nature of Crow Benefit payments as a commodity-based input subsidy has undesirable trade implications such as risk of countervail actions, as well as undesirable consequences for land use patterns and soil conservation objectives.

—The distributional effects of the Crow Benefit payments and the attendant legislative, regulatory and institutional systems have been capitalized and any change would have differential effects on existing and future participants.

—The regulatory structure of the grain handling and transportation system provides little incentive or flexibility to reduce system costs through increased efficiency and competition.

The following proposal puts forward solutions on how to remove these impediments, thereby achieving Western Canada's grain handling and transportation policy objectives.

CROW BENEFIT BUY OUT

Background

The method of payment of the Crow Benefit has been a contentious issue since the late 1970's. At the time of the promulgation of the WGTA in 1983, the Western Canadian farm community was divided over whether the Crow Benefit payment should be made to the farmer, to the shipper, or to the railway. Parliament was sufficiently concerned about the method of payment issue that in response to pressure from the official opposition (Progressive Conservative), a clause directing that the method of payment be reviewed was included in the Act.

This review, led by Judge Gordon C. Hall, reported that the method of payment was inhibiting diversification in Western Canada. In a later study, the Grain Transportation Agency (GTA) supported the findings of the Hall Committee and also noted changes in the WGTA which would be beneficial to the grain handling and transportation system.

Despite government and industry's realization of the benefits that would be brought by the suggested changes, they were not instituted. In response, the Government of Alberta in 1985 introduced a financial assistance program to offset the artificially inflated price Alberta farmers pay for feedgrain supplies for their livestock. Within two years the other western provinces had independently instituted similar programs. Although these programs nullified the negative economic impact resulting from the current method of payment, they did not correct the problem. British Columbia cancelled its program in 1989, but the Prairie Provinces have found it necessary to continue their offset programs.

At their Parksville Conference in 1988, the premiers of Western Canada endorsed provincial freedom of choice in the method used to pay the Crow Benefit. In 1989, a joint committee comprised of representatives from the Governments of Alberta and British Columbia and the Alberta Wheat Pool developed a proposal for the Crow Benefit to be paid directly to producers in the two provinces. The committee's proposal was subsequently supported by the memberships of the Alberta Wheat Pool and other Alberta farm organizations.

Continuing to feel the impediments imposed by the current method of payment and realizing the benefits of a direct-to-producer payment, the agriculture sectors in Alberta and B.C. have encouraged pursuance of a Western Canada-wide change. Because the current mandate of the federal-provincial Transportation Committee does not extend to the development of proposals for policy change, the following is submitted.

Elements of a Buy Out

The method of payment portion of this proposal is based upon a Federal Government buy out of the Crow Benefit by way of a bond applied to ownership of freehold arable land within the CWB designated area. The following considerations form the substance of this buy out:

1. Reallocation of the Crow Benefit from the railways to producers would effectively remove the distortion of domestic grain prices currently resulting from the selective application of the Benefit to export quantities of eligible grains. However, reallocation alone would not provide for neutrality in production or trade flows as the payment would likely be a subsidy on production and sale of eligible grains. Neutrality in production and trade could be provided for by elimination of payments of the Crow Benefit.
2. Without financial offsets to the elimination of Crow Benefit payments, the costs of adjustment to industry and system participants would exceed the previous annual value of Benefit payments.

Therefore, a financial offset to the costs of adjustment would be required.

3. Redistributional effects would arise from elimination of the Crow Benefit and provision of financial offsets. Any financial offset should be decoupled and be directed to industry participants, that is, the final recipients of redistributional effects of changes to the method of payment. In past, the annual payments of the Crow Benefit have been capitalized into the value of agricultural (more precisely, arable) land, so it is the landowner who would be the final recipient of redistributional effects of elimination. This suggests that the landowner should be the recipient or beneficiary of offset payments although the obligation to provide offsets to the costs of adjustment and redistributional effects should cease within a predetermined period.

Bond Characteristics

—It is proposed that the Federal Government provide interest-bearing bonds to landowners. The total value of the bonds would be equivalent to the net present value of the current Crow Benefit commitment of $720 million per year. For example, at a discount rate of 10 percent, the net present value of this perpetual commitment would be $7.2 billion.

—The bonds would bear interest annually, thus providing an annual cash stream to bond holders, helping to offset the increase in transportation costs producers would pay following this proposed change in the method of payment. The cash stream from the bond would replace the present Crow Benefit payments made to the railways.

—The bonds would be redeemed at the end of a 15 year period. The Federal Government would have options on how to commit funds to a bond redemption fund to ensure the $7.2 billion is available to the bond holders at the end of the buy out period. For example, at a 10 percent discount rate, the Federal Government could deposit $226.6 million annually into a bond redemption fund for 15 years, or it could deposit $1.724 billion up front at the beginning of the buy out.

—The cash stream could be a uniform series of annual payments valued at $720 million, or it could be front end loaded in the initial years of the buy out with decreasing payments thereafter. The advantage of the latter option, a staged payment, is that the extra funds during the initial years of the buy out would provide landowners with the dollars necessary to make desired adjustments to their businesses. Any further adjustments required in the middle and final years of the buy out would be provided by the cost savings arising from changes to the WGTA and certain regulations. Figure 1 depicts the Federal Government's commitment under an annual contribution of $226.6 million to a bond redemption fund along with payment of an annual cash stream to bond holders.

—After the 15 year buy out period, the Federal Government's commitment to paying the Crow Benefit would end. Thereafter, the bond holder would be responsible for managing the redeemed principle value of his bond. (If the bond holder decided to reinvest the principle, the interest would continue to provide a cash stream equivalent to the Crow Benefit.)

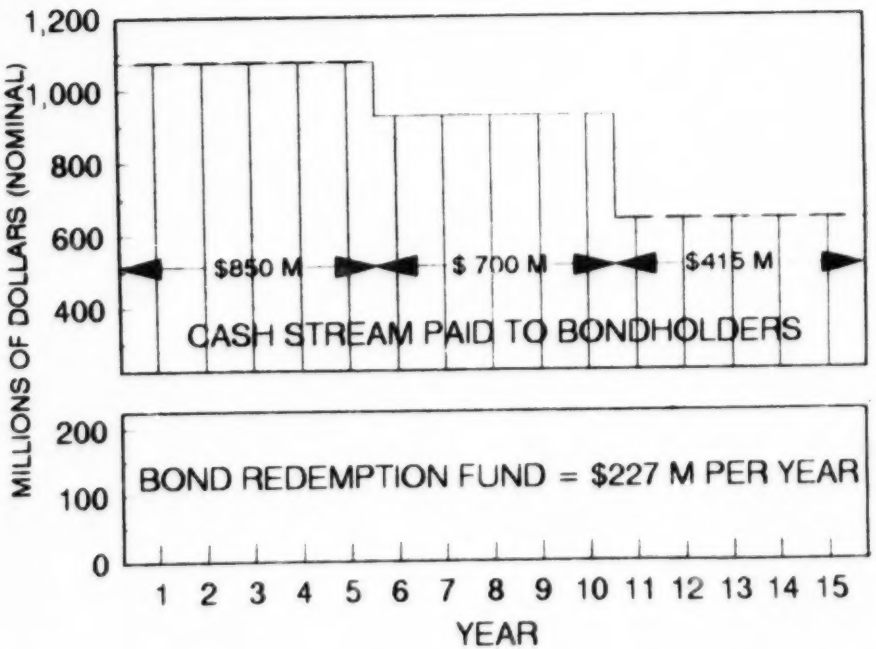
Beneficiaries

—Beneficiaries of the bond would be the owners of freehold arable land within the CWB designated area as of a specified date before the start of a buy out.

—Each beneficiary would receive his entitlement in the form of a 15 year federally registered bond. Terms of the bond would include that the cash stream was to be paid within a marketing year, and that the bond was not redeemable prior to maturity.

FIGURE 1

FEDERAL GOVERNMENT COMMITMENT UNDER A BUY OUT OF THE CROW BENEFIT USING A $7.2 BILLION BOND REDEEMED BY BOND HOLDERS AFTER YEAR 15.



$227 M PER YEAR PLUS INTEREST

$7.2 BILLION BOND REDEEMED BY BONDHOLDERS AFTER YEAR 15

Annual cash stream paid to bondholders is equivalent to the present commitment.
Federal commitment ends after year 15

—The bond would be listed on a recognized Canadian securities exchange. As such, bond holders would have the option of holding the bond to maturity, selling the bond in the open market, assigning the bond to reduce debt, or assigning the bond to support increased borrowings.

Determination of Entitlement

—The definition and establishment of acres of arable land within the CWB designated area would be based on classifications used in municipal tax assessments, and would be made up of:

- freehold title farmland classified as dryland arable, and
- freehold title farmland classified as irrigation land, multiplied by 1.48 of dryland arable to reflect production capability. (The 1.48 factor for irrigation land is a reflection that, on average, irrigation enhances the productivity of the soil by 48 percent.)

—The entitlement would be adjusted by a factor reflecting differences in soil productivity across the CWB designated area. Municipal tax assessments provide productivity ratings for parcels of land based on soil, agroclimatic and topographical characteristics. Each quarter section would be assigned a productivity rating based on the province's municipal tax assessments. The quarter section's productivity rating would then be divided by the weighted mean productivity rating in the CWB designated area (calculated to be roughly 0.75 relative to the most productive land in the province).

For example:

1. Black soils typically have a productivity rating of 0.90.

   0.90/0.75 = 1.2 Productivity Adjustment Factor

2. Brown soils typically have a productivity rating of 0.55.

   0.55/0.75 = 0.73 Productivity Adjustment Factor

—The entitlement would also be adjusted by a distance factor to reflect differences in rail transportation costs across the designated area. The base rate scale set forth in the WGTA would form the basis for the distance adjustment factor calculation. Each landowner would be assigned a base rate according to the average base rate for the crop district in which his land is located. This base rate would then be divided by the average of the base rates at all delivery points in the CWB designated area (calculated to be about 4.70).

For example:

1. Lethbridge has a base rate of 4.77 in the 1990/91 crop year.

   4.77/4.70 = 1.01 Distance Adjustment Factor

2. North Battleford has a base rate of 5.17 in the 1990/91 crop year.

   5.17/4.70 = 1.10 Distance Adjustment Factor

3. Brandon has a base rate of 3.73 in the 1990/91 crop year.

   3.73/4.70 = 0.79 Distance Adjustment Factor

—The mean entitlement per acre would be established prior to implementation of the buy out.

The formula for the mean entitlement per acre would be:

$$\frac{NPV}{(A+I) \times PAF \times DAF} = E$$

where:

NPV = bond value of $7.2 billion,

A = sum of all dryland arable acres (approximately 81.206 million acres),

I = sum of all irrigated acres (1.380 million acres) x 1.48,

PAF = average productivity adjustment factor of 1,

DAF = average distance adjustment factor of 1,

E = mean entitlement per acre.

The calculation for the mean entitlement per acre, then, is:

$$E = \frac{\$7,200,000,000}{(81,206,000 + (1,380,000 \times 1.48) \times 1 \times 1} = \$86$$

Therefore, the mean entitlement per acre for the CWB designated area is approximately $86 per acre.

—Individual entitlement would be calculated on the sum of a landowner's arable acres multiplied by his land's productivity adjustment factor, distance adjustment factor, and the mean entitlement per acre. Individual entitlement would be paid to the beneficiary in the form of a bond.

The formula for the individual entitlement would be:

(AA + II) x PAF x DAF x E = AE

where:

AA = sum of the landowner's dryland arable acres,

II = sum of the landowner's irrigated acres x 1.48,

PAF = productivity adjustment factor,

DAF = distance adjustment factor,

E = mean entitlement per acre (approximately $86/acre),

AE = individual entitlement.

For example:

1,000 Acre Farm	Annual Cash Stream		Redeemed Value at 15 Years
Lethbridge (250 acres under irrigation)	Year 1- 5:	$ 8,384	$ 71,017
	Year 6-10:	$ 6,904	
	Year 11-15:	$ 4,093	
North Battleford	Year 1- 5:	$13,402	$113,520
	Year 6-10:	$11,037	
	Year 11-15:	$ 6,543	
Brandon	Year 1- 5:	$ 8,021	$ 67,940
	Year 6-10:	$ 6,605	
	Year 11-15:	$ 3,916	

Options Resulting from a Buy Out

Through the issue of a bond, a farmer's asset values would be protected. More importantly, the farmer would have a number of choices with regard to the disposition of his entitlement. The bond could be traded on a recognized securities exchange and, therefore, could be used to reduce debt or cover urgent farm financial needs. (If, for example, the implementation date would have been August 7, 1990, landowners could have sold their bonds on a recognized securities exchange at an estimated 95 percent of the face value of their bonds. A tradeable bond gives the landowner the option of selling the bond at any point in time at either a small discount or premium, depending on market conditions prevailing on that day in the bond market.) Or, the farmer could choose to invest the capital value of his bond in options such as diversification in crops and in livestock. Alternately, the farmer could accept the annual cash stream from the bond to pay for all or part of the increased freight costs he faces. (Details of the economic, social and environmental impacts of a buy out are contained in Appendix B.)

REVISION OF LEGISLATION AND REGULATIONS

Current Situation

1. Under the current grain handling system, farmers pay handling costs through tariffs charged by individual grain companies on grain deliveries. At the same time, there is an element of cross-subsidization in the handling system in that the revenues generated in the port terminal system are used to offset losses in the inland primary elevator system. The resulting artificially low tariff for primary elevation reduces the incentive for producers to bypass the primary elevator system by using producer cars or for the system to construct high throughput (low per tonne cost) facilities. It also restricts competition in the provision of primary elevator services.
2. Grain transportation costs are established every four years by the National Transportation Agency (NTA) and are indexed annually according to inflation and anticipated volumes to be moved by the railways. The indexed costs are averaged between the railways, and that average is used to establish freight rates based on mileage to port. These rates guarantee sufficient revenues for the railways to cover their costs and provide a return on investment.
3. Under the Western Grain Transportation Act, payment of the freight rate is shared by the shipper and the Federal Government. Because a farmer pays only a fraction of the rate, he may be unaware of the total cost of moving his grain from his rail line. As well, the Canadian Wheat Board pays only a fraction of the additional rate charged when it crosshauls grain. The costs of hauling Board grain to ports other than the ones designated for individual train runs increased to $58 million in 1987/88 from $16 million in 1983/84.
4. The car allocation process is handled by the CWB for Board grains and the GTA for non-Board grains. Elevator companies have little say about how cars will be allocated for train runs, and the railways are not involved to any great degree in the allocation of cars to individual country points. Shippers cannot augment their official allocation with cars they have acquired privately.
5. The Federal Government and the Governments of Alberta and Saskatchewan provide a large portion of the hopper car fleet to move grain.
6. Railways can offer incentive rates to shippers but use of those rates has been restricted by the notification period required (seven months) and the WGTA recosting mechanism. The annual volumes which have been moved under incentive rates (under 200,000 tonnes) and their impact on delivery patterns have been relatively small.
7. Incentives offered by the railways for greater efficiency in the transportation of grain are available only for a maximum of four years under the current quadrennial costing procedures.
8. Cost savings resulting from the elimination of primary elevators or railway branch lines are reflected in elevation and freight tariffs. The current system offers little incentive for individuals to take steps to reduce system costs. In most cases, individuals must incur additional expenses to reduce system costs while the savings are shared by all users. This sharing of all savings prevents individuals from being adequately rewarded for taking steps to lower system costs.
9. The existing railway freight rate structure, based on average system-wide costs, tends to mask the cost of individual elements in the grain handling and transportation system. Trucks are prevented from

competing with the railways because of the low rail rate paid by farmers.

Revised Rate Structure

The objective of proposing a change in the WGTA rate structure is to provide farmers with price signals that reflect the relative costs of various services. These signals would allow farmers to make informed choices when determining how best to ship their grain.

It is proposed that a revised rate structure have the following features:

1. The freight rate would continue to be calculated on the basis of railway variable costs and distance to port.
2. The shipper would pay the full rate for all movements, including crosshauls.
3. Trucks would be enabled to compete with railways for export and domestic movements.
4. Railways would be given greater freedom to institute incentive rates and to reduce costs.
5. Differential charges for high cost branch lines would be imposed upon users to reflect a portion of the higher cost of shipping from those points. Branch line abandonment would be facilitated.
6. The railways would be allowed to keep grain-specific productivity savings for an extended period of time. In return for being allowed to keep those productivity savings, grain shippers' contributions to the railways' constant costs would be reduced to more accurately reflect the contribution levels of other railway traffic.
7. The railways would be responsible for the acquisition of all additional hopper cars needed.
8. Demurrage would be charged on hopper cars to encourage better utilization of cars. Cars returned quickly would receive dispatch.
9. The costs associated with the Churchill line would be removed from the cost base.
10. The rate taper that occurs above 1,200 miles would be eliminated so that the rates charged for longer distance hauls would more closely approximate costs.

In order to encourage producers to find their lowest cost transportation mode, a change in the annual rate setting process and the manner in which rail rates are applied in Western Canada must occur.

It is proposed that the rate structure continue to be based on the mileage from each delivery point to port. Total volume-related variable costs and a portion of the line-related variable costs would be divided by the projected tonnage to establish the base rate scale.

The remaining portion of the line-related variable costs would be assigned directly to branch lines in a manner which differentiates high cost branch lines from low cost branch lines. These costs would be added to the rate charged to move grain from high cost branch lines. Under such a rate structure, farmers would pay a greater share of the cost associated with moving grain off the branch lines they use.

The line-related costs for maintaining the Churchill line would be removed from the cost base. It is submitted that the rail line is not used exclusively for the purpose of exporting grain and, therefore, the costs should not be borne by grain shippers. If the Federal Government believes the Churchill line is required for strategic reasons or as a supply port for the Arctic, it should provide separate funding for its maintenance.

Under the current WGTA, the railways offer incentive rates to shippers. These lower rates are intended to encourage shippers to move grain in a manner that reduces railway costs by shipping larger volumes from a single point or loading more cars in a short period of time. However, the cost savings gained by the railway through these incentive rates are factored out of the WGTA freight rate at each

four year recosting. This not only denies the railways their cost savings but negates their ability to continue to offer incentive rates since factoring the savings into the recosting process results in reduced rates for all producers.

To provide the railways with a means to offer incentive rates under a revised rate structure, it is proposed that they be allowed to retain the benefits of grain-specific productivity improvements for a longer period of time.

The WGTA currently provides for a 20 percent supplement to the railways' volume-related variable costs to cover grain shipping's share of the railways' constant costs. Between 1984 and 1988, however, the contribution level for both railways averaged 25 percent — significantly greater than both the level specified in the legislation and that contributed by non-grain traffic. In exchange for being allowed to capture the gains from productivity improvements for a longer time period, it is proposed that the legislated contribution to the railways' constant costs be reduced to be more reflective of the levels of other traffic.

By allowing the railways to retain some cost savings, they would be rewarded for lowering costs. At the same time, shipping costs would be reduced, allowing farmers to take advantage of incentive rates.

Incentive rates are generally available for multi-car shipments from a specific point within a specified time period or for elevators able to meet minimum annual shipping volumes. Shippers unable to obtain incentive rates at their existing delivery points would have the option of trucking their grain to points offering a lower freight rate. It would generally be in farmers' interest to take advantage of such rates if the savings exceeded the additional costs to haul to the alternate points.

Under the WGTA, the railways must submit their incentive rate proposals to the NTA seven months prior to the beginning of the crop year. The time lag between application and (if accepted by the NTA) implementation of the incentive rate hinders the railways' ability to compete. It is therefore proposed that the railways be given the ability to apply and discontinue incentive rates on short notice.

The proposed changes to the rate structure are based on the principle that grain farmers who move their product efficiently should not have to share their cost savings with other shippers. Having to share their savings with all other Western Canadian farmers provides little, if any, return for their efforts and offers them little incentive to transport their grain more efficiently. Farmers must be given the opportunity to know the cost of each part of the system and must have the opportunity to lower costs as their circumstances permit.

Results of Revised Rate Structure

The above rate structure changes would reduce the freight rate paid by farmers who deliver to those main line delivery points offering incentive rates. It would also increase rates on low volume branch lines. The intent of these changes would not be simply to redistribute rail charges, but to provide a price signal to producers and thereby facilitate a move toward a more market responsive and competitive system. These changes would allow those who improve the efficiency of the system to benefit yet would also allow those who wish to continue using high cost parts of the system to pay for their maintenance.

Other Regulatory Changes

The proposed changes to the WGTA are one step towards a lower cost grain transportation system. However, with some other adjustments, the pace of change and the extent of benefits could be greatly increased. The other areas requiring change include car allocation, the CWB contract system and the CWB pooling of Seaway costs.

Car Allocation

The current system of car allocation, whether based on export sales or on a weighted average of inland deliveries, does not promote efficient movements since it is difficult to obtain block train-sized allocations. To facilitate efficiency in the short term, the car allocation system should be modified to allow elevator companies at the larger, more efficient loading facilities to receive 18, 50 or 100 cars. In order to assemble these larger shipment volumes, elevator companies would have to be given the ability to switch their total car allocation between individual train runs.

New rail car purchases are currently the responsibility of the major railways. The GTA has predicted the need for up to 9,000 new hopper cars to be acquired by the year 2000 at a cost of $720 million. At the same time, under the current car allocation system, there is no economic incentive for shippers to acquire cars. It is therefore proposed that car allocation procedures be altered to facilitate the purchasing or leasing of additional cars by shippers.

Canadian Wheat Board Contract System

To better co-ordinate the movement of Board grains under the current car allocation system, it is proposed that the CWB contracting system of acquiring grain be expanded to include wheat.

Pooling of Seaway Costs and Crosshauling Grain

The Canadian Wheat Board pools the cost of additional freight for crosshauling grain as well as the costs of transporting grains through the St. Lawrence Seaway system. These pooling issues can best be dealt with separately after the method of payment has been changed, and the most efficient possible transportation system has been designed.

MAJOR EFFECTS OF PROPOSAL IMPLEMENTATION

If the proposal put forward in this document were implemented, the effects on Western Canadian agriculture would be evolutionary and gradual, but far reaching. Following is a summary of the major effects implementation would have on the primary agriculture sector, the value added sector, employment and GDP, trade policy, rural communities, the grain handling and transportation system, offset programs, and environmental sustainability.

The information in the summary has been derived from a number of sources, including economic analyses which examined the impacts that would have occurred had the buy out, revised WGTA rate structure and other regulatory changes been in effect between 1980 and 1988. Most of the analyses were conducted by consultants contracted by Alberta Agriculture.

A detailed explanation of the impacts is provided in Appendix B.

SUMMARY OF MAJOR EFFECTS

Primary Agriculture Sector

Prices
(Historical Analysis, 1980 - 1988)

—Price distortion would have been removed, promoting market-based decisions.
—Local elevator price for Board grains would have declined by the difference between the current Federal Government share of rail freight charges and the cost savings arising from the introduction of more flexibility in the WGTA.
—Off-Board feedgrain prices would have declined by approximately $12 to $15/tonne.
—Non-Board and off-Board grain prices might have declined by the same amount as the prices for Board grains, depending on market conditions.
—In response to the decreased feedgrain price, calf prices would have risen by approximately $4.00 per hundredweight.

Annual Crop Production/Revenue
(Historical Analysis, 1980 - 1988)

—Wheat production would have declined by 7 percent or 1.45 million tonnes.
—Barley production would have declined by 10 percent or 1.0 million tonnes.
—Oats production would have increased by 4 percent or 84,000 tonnes.
—Canola production would have increased by 5 percent or 190,000 tonnes.
—Flax production in Manitoba would have increased by 7 percent or 35,000 tonnes.

—Grain-derived revenue would have increased by 2 percent or $105 million, inclusive of the compensation paid in those years and the efficiency gains from the revised WGTA rate structure.

Annual Livestock Production/Revenue (Historical Analysis, 1980 - 1988)

—Beef cow herd would have increased by 11 percent or 280,000 head.
—Feeder exports would have declined.
—Inventories of feeder cattle would have risen by 25 percent or 450,000 head.
—Sow numbers would have risen by 5 percent or approximately 18,000 sows.
—Total livestock revenue would have increased by 17 percent or $589 million.

Primary Agriculture Sector Revenue (Historical Analysis, 1980 - 1988)

—Western Canada's annual agriculture sector revenue would have increased by $695 million or 8 percent.

Asset Values

—Arable land prices would have to decline by an amount greater than the value of the individual's bond before any loss would occur.
—Cultivated land rental rates would decline in accordance with the decreased crop market returns.

Summary of Effects: Control and responsibility for decisions in resource allocation, production and marketing would be returned to the farmer.

Value Added Sector

—Cost of grain as an input would decline.
—Higher valued crops which are typically processed domestically would increase in supply.
—Livestock for processing would increase in supply.
—From the above, higher throughput and cost savings would enhance the sector's competitiveness in the global market. For example, estimates for Alberta indicate cost savings of: $6 million per year for canola crushers, $1.5 million per year for malsters, $7 million per year for millers, and $2.6 million per year for industrial milk producers.

Employment and GDP

Employment (Historical Analysis, 1980 - 1988)

—An additional 3,500 to 6,300 jobs would have been created in Canada.

Gross Domestic Product (Historical Analysis 1980 - 1988)

—A $765 million to $834 million increase would have occurred in Canada's annual GDP.

Summary of Effects: Significant increase in the expansion, competitiveness and diversification of the agriculture and food industries.

Trade Policy

GATT

—The Crow Benefit subsidy could move from being considered a trade-distorting subsidy to being a permitted or minimally disciplined policy.

U.S. Trade Law

—If the buy out were considered to be an adjustment program, the agriculture sector could be excluded from countervail.

CUSTA

—U.S. quotas should not be affected by the provisions of the buy out bond.

Rural Communities

—The proposed changes would neither accelerate nor reverse the current trend of consolidation of services into larger rural centres.

—Increased commercial trucking and the appearance and enhancement of small scale industry would promote the viability of rural communities.

—The size of payment embodied in a bond would facilitate adjustment in the agriculture sector by providing for retirement. Lower land prices would facilitate entry into the industry.

Grain Handling and Transportation System

Productivity

—The greater flexibility given to the railways and increased competition should increase the rate of productivity gains for moving grain. Increased efficiency should reduce cost by $35 million to $40 million annually in ten years. This is in addition to the cost savings that would be achieved from current trends in productivity improvement.

Branch Line Abandonment

—Removal of 30 percent of grain-dependent branch lines, rather than the 10 percent predicted in the current trend, would result in incremental cost savings of 20 percent or $18 million annually in ten years. This is in addition to the cost savings that will be achieved from current trends in abandonment.

Commercial Trucking

—As a result of the increased branch line abandonment, the net increase in trucking costs would be $11 million annually after ten years.

Hopper Car Purchases	—Improved utilization of hopper cars and less marshalling in rail yards would eliminate the need for purchase of 7,000 cars as currently determined by the GTA. Over a 10 year period this would provide annual savings of $46 million.
Alberta and Manitoba Crosshauls	—Under the proposed rate structure, CWB crosshauls from Alberta to Thunder Bay and Manitoba to Vancouver would be greatly reduced. Savings of $29 million would accrue to the producers delivering to CWB pool accounts.
Grain Cost Base	—There is little justification for having Churchill in the cost base for grain freight rates. Removal of the line-related costs alone would reduce costs to farmers by $5 million per year.
Elevator Consolidation	—A number of small elevators would be replaced by larger facilities, enhancing system efficiency and increasing capacity to clean grain inland. Improved margins in the primary collection system would be used to replace capital plants; no immediate savings to shippers would occur.

Summary of Effects: **Provision of substantial flexibility in the grain handling and transportation system would result in savings in excess of $100 million annually for grain shippers within ten years. These savings are beyond those that would result from current trends.**

Productivity Savings	**$ 35-$40 million**
Branch Line Savings	**$ 18 million**
Increased Trucking Costs	**$ 11 million**
Decreased Hopper Car Purchases	**$ 46 million**
Reduction of Crosshauls (Alta., Man.)	**$ 29 million**
Elimination of Churchill Costs	**$ 5 million**
Total Annual Savings in Ten Years	**$122 million**

Offset Programs	—Removal of the domestic price distortion would eliminate the need for provincial offset programs.
Environmental Sustainability	—Some marginal lands would be returned to pasture. —Increased forage production would reduce soil degradation. —The incentive to expand grain production onto marginal lands and wetlands would be reduced.

SUMMARY AND CONCLUSIONS

The Federal Government's present method of paying the Crow Benefit is a deterrent to the expansion, diversification and competitiveness of the Western Canadian agriculture and food industry. As well, the present WGTA rate structure and other regulatory rigidities in the grain handling and transportation system inhibit the progressive evolution of the system in becoming more market responsive and cost effective.

The proposal presented in this document addresses these issues. First, it is proposed that the Federal Government buy out the Crow Benefit through issuance of registered bonds to the owners of arable land in the CWB designated area. The bonds, to be redeemed after 15 years, would provide an annual cash stream to the bondholders to offset their having to pay the full cost of grain transportation.

Second, the proposal focuses on a revision of the WGTA rate structure and on other regulatory changes required both to promote efficiency in the grain handling and transportation system and to provide price signals to transport users. Although the current distance-based rate structure would be retained, a premium charge for users of high cost branch lines is promoted. The regulations controlling the use of incentive rates would be changed to provide greater freedom in their negotiation. The railways would also be provided an opportunity to retain cost savings for an extended period of time. A further change would involve reducing grain shippers' contribution levels so they more accurately reflect the contribution levels of other railway traffic. With other changes to regulations such as those involving the car allocation procedure and the CWB contracting system, the pace of change and the extent of benefits could be greatly increased.

Studies have shown that adoption of these changes would provide tremendous economic development potentials for Western Canada. For example, if the proposal had been in operation over the 1980 to 1988 period, the increase in Western Canadian annual grains sector revenue would have been $105 million. Expansion in the livestock sector would have resulted in an increase in Western Canadian annual livestock revenue of $589 million. Consequently, overall Western Canadian primary agriculture industry revenue would have risen approximately $695 million annually over the period studied.

In addition to gains in the primary agriculture industry, the overall Canadian economy would have benefited. A rise in annual employment figures by 3,500 to 6,300 jobs and an increase in annual Gross Domestic Product of $765 million to $834 million would have occurred between 1980 and 1988 if the proposal had been implemented.

A buy out could move the Crow Benefit subsidy from being considered a trade-distorting subsidy to being a permitted or minimally disciplined policy. A buy out could also be excluded from any countervailing duty if it were considered an adjustment program. Furthermore, U.S. import quotas should not be affected by a buy out. These benefits would provide a more secure trading environment in which farmers could make production and marketing decisions.

Through implementation of the proposal, the benefits accruing to the Canadian economy would provide rural communities with a more secure and viable economic base. As well, the environmental sustainability of Western Canadian agriculture would be enhanced through the return of some marginal lands to forage production.

To the Western Canadian and Canadian economies, implementation of the proposal would provide substantial economic development potentials, enhancing economic growth and the number of individuals

growth and the number of individuals employed. To individual farmers and their communities, more stability in their incomes and employment base would be provided through diversification and a more stable international trading environment. A cost effective and less regulated grain handling and transportation system would enhance Western Canadian farmers' competitiveness in the international market. Most importantly, the changes proposed in this document would allow farmers freedom to change on the basis of market signals and freedom to choose among alternative modes of transportation to move their products to the market of their choice.

APPENDIX A

WESTERN GRAIN TRANSPORTATION ACT/ FEDERAL-PROVINCIAL REVIEW PRINCIPLES

The Western Grain Transportation Act (WGTA), passed on November 17, 1983 and taking effect on January 1, 1984, provided for:

—A Federal Government commitment to the cost of transporting grain;

—The limiting of the future size of the government commitment through a sharing of cost increases by grain producers and government, and limitation of the government commitment to the amount of grain moved in the 1981/82 crop year;

—The government contribution to the cost of moving grain being paid directly to the railways; and

—The replacement of the statutory grain rates by a rate scale established by the Canadian Transport Commission based on grain moved over various mileages.

Amendments to the Act, effective August 1, 1985, principally provided for a tally adjustment mechanism to facilitate payment adjustments between government and shippers as a result of imperfect forecasting of amounts of crop to be moved. The 31.5 million tonne volume limit to the government commitment was removed.

Ancillary events since January 1, 1984, have been the Hall Committee inquiry into the method of paying the Crow Benefit, the review of the WGTA by the Grain Transportation Agency, the introduction of variable rates in the 1987/88 crop year, the administrative adjustments in freight rates paid by the producer in the crop years 1987-89, and the federal-provincial review of agricultural transportation policies, issues and programs initiated in December 1989.

The review of agricultural transportation, undertaken initially by an appointed committee and to be completed by June 30, 1990, is mandated to review and examine issues relating to the WGTA. The issues are specified but not necessarily limited to:

—Method of paying the Crow Benefit

- phase out payments with or without a bond or annuity,
- on-going payments to producers,
- revised safety net programs.

—Options contributing to reduced costs and improved efficiency of the grain handling and transportation system with or without a change in the method of payment.

—Amendments to the WGTA and other legislation or regulations.

The review and examination is being guided by the following general principles, as outlined in the Agriculture Canada document entitled "Growing Together":

- more market responsiveness,
- greater self-reliance in the agri-food sector,
- a national policy which recognizes regional diversity, and
- increased environmental sustainability.

In addition, the Transportation Committee is being guided by the principles proposed for the review of Canada's agricultural transportation policies which is due for completion by the end of 1990. These principles are:

—Canada's agricultural transport programs should be sensitive to the regional diversity of Canada's agri-food industry, while recognizing that there is national interest in such programs. These programs should be reviewed in terms of their implications

across the country, not just in a region where the transport program operates.

—Changes that reduce overall transport and handling costs should be encouraged.

—Transportation programs should not distort normal market forces affecting producers or processors.

—Transportation policies should not lead to the need for federal or provincial programs designed to offset the effects of another transport program.

—Transportation policy should be consistent with international trade rules and minimize the risk of trade action by other countries.

APPENDIX B

DETAILED EFFECTS OF PROPOSAL IMPLEMENTATION

Primary Agriculture

An econometric model was developed to quantify the effects of the proposed buy out and revised grain handling and transportation system on the grains and and livestock sectors in the Prairie Provinces. The regions utilized were Statistics Canada's 22 Agricultural Reporting Areas (ARA). These ARA's were aggregated into seven regions for the analysis. These regions were: southern Alberta, central Alberta, northern Alberta, southern Saskatchewan, east-central Saskatchewan, northwestern Saskatchewan, and Manitoba. Figure 1 depicts the seven regions. While B.C. was not included as a region due to data constraints, it is felt the results for northern (Peace River) and southern Alberta accurately reflect B.C.'s grain and cow/calf sectors, respectively.

The analysis of the effects of the proposal was carried out using an historical period over which prices, production, weather, trade patterns and general economic conditions were known with certainty. Such an analysis eliminated the need to project parameters into the future, a practice which can be imprecise and subjective. The period analyzed was 1980 to 1988, and the effects described are on the basis of what would have happened if the proposal had been in place over that period.

The crops studied were wheat, barley, canola, oats, and flax (Manitoba only). For the livestock sector, the size of the beef cow herd, replacement heifer inventory, feeder steer inventory, and sow inventory levels were analyzed.

Under a buy out of the Crow Benefit, cash payments to the landowners (typically the farm operator) were assumed not to directly influence cropping and livestock decisions. Consequently, changes in cropping patterns would be due to the changes in relative farmgate prices of grains and oilseeds resulting from implementation of the proposal. However, if any portion of the cash stream from the bond had been incorporated by farmers into their decisions, the changes in grain production would have been smaller.

Price Responses

The model showed that, with adoption of the proposal, the local market price for Board grains would have dropped by the Federal Government's share of the total rail freight rate over the 1980 to 1988 study period. The government's share over this period ranged from roughly $18 per tonne in 1980 to $26 per tonne in the latter part of the 1980's. However, cost savings in the grain handling and transportation system arising from the WGTA proposal averaged $6, $7, and $5 per tonne in Alberta, Saskatchewan and Manitoba, respectively. As such, the farmgate price for Board grains would have declined by the difference between the present government commitment and the cost savings inherent in the WGTA component of the proposal. This decline in the farmgate price for Board grains in the latter part of the 1980's would have been roughly $15 to $21 per tonne. In response to a decrease in the local market price for Board grains, the off-Board price would have decreased by approximately $14.75, $13 and $11.75 per tonne in Alberta, Saskatchewan and Manitoba, respectively. These differential changes in off-Board barley prices across the Prairies would not only have been the result of the differences in freight charges, but also the differences in local market conditions in each of the provinces.

Given that feeder cattle prices are in part determined by the off-Board barley price, the above declines in barley prices would have resulted in feeder cattle prices rising by an

FIGURE 1

PRAIRIE CROP DISTRICTS

average of $4.50, $2.25 and $4.05 per hundredweight in Alberta, Saskatchewan and Manitoba, respectively.

Grain Production Responses by Region

The results of the study indicate that annual wheat production would have declined over all seven regions by approximately 7 percent (1.45 million tonnes) on average over the period. This ranged from 1 percent in southern Alberta to 17 percent in northwestern Saskatchewan. (Southern Alberta is a predominantly wheat growing area with limited opportunities at present to alter its crop mix, while northwestern Saskatchewan is a dark brown to black soil zone area, offering greater cropping and livestock alternatives.) Figure 2 depicts the average annual change in crop production that would have occurred in each of the seven regions and the provinces as a whole.

Barley production would have decreased by roughly 10 percent (1.0 million tonnes) over the Prairies. This ranged from 5 percent in northwestern Saskatchewan and northern Alberta to 29 percent in southern Saskatchewan.

Canola production would have increased by approximately 5 percent (190,000 tonnes) over the Prairies. This ranged from no change in Manitoba to 37 percent in southern Saskatchewan. Central Alberta showed a small decline in canola production; however, this decline should be viewed with caution. The dynamics of this region were difficult to model in most of the crops studied as this region has the ability to grow all crops and is also a major livestock-producing region in the province.

Oat production changes were mixed, with some regions experiencing increases in oat production and others showing decreases in production. Overall, oat production would have increased by 4 percent (84,000 tonnes). Central Alberta showed a decline, Manitoba experienced no significant change in oat production, while all other regions displayed increases.

Annual flax production in Manitoba would have risen 35,000 tonnes (7 percent). Given Manitoba's diverse resource base, similar increases in specialty crop production would have also likely occurred over the 1980 to 1988 period.

In summary, overall cropping patterns would have changed under the proposal. This would have been due to the changes in relative prices between crops and their historical influence on cropping decisions. Those regions with the ability to shift cropping patterns would have changed in favor of higher value crops.

It must be noted that this analysis did not attempt to measure what would have occurred if the Crow Benefit had been removed without compensation. Such an analysis would have to factor out the implicit influence of the Crow Benefit on cropping decisions. It is felt, however, that the above analysis accurately reflects the effects of a buy out/revised grain handling and transportation system proposal where compensation is offered and where market signals predominantly determine resource allocation.

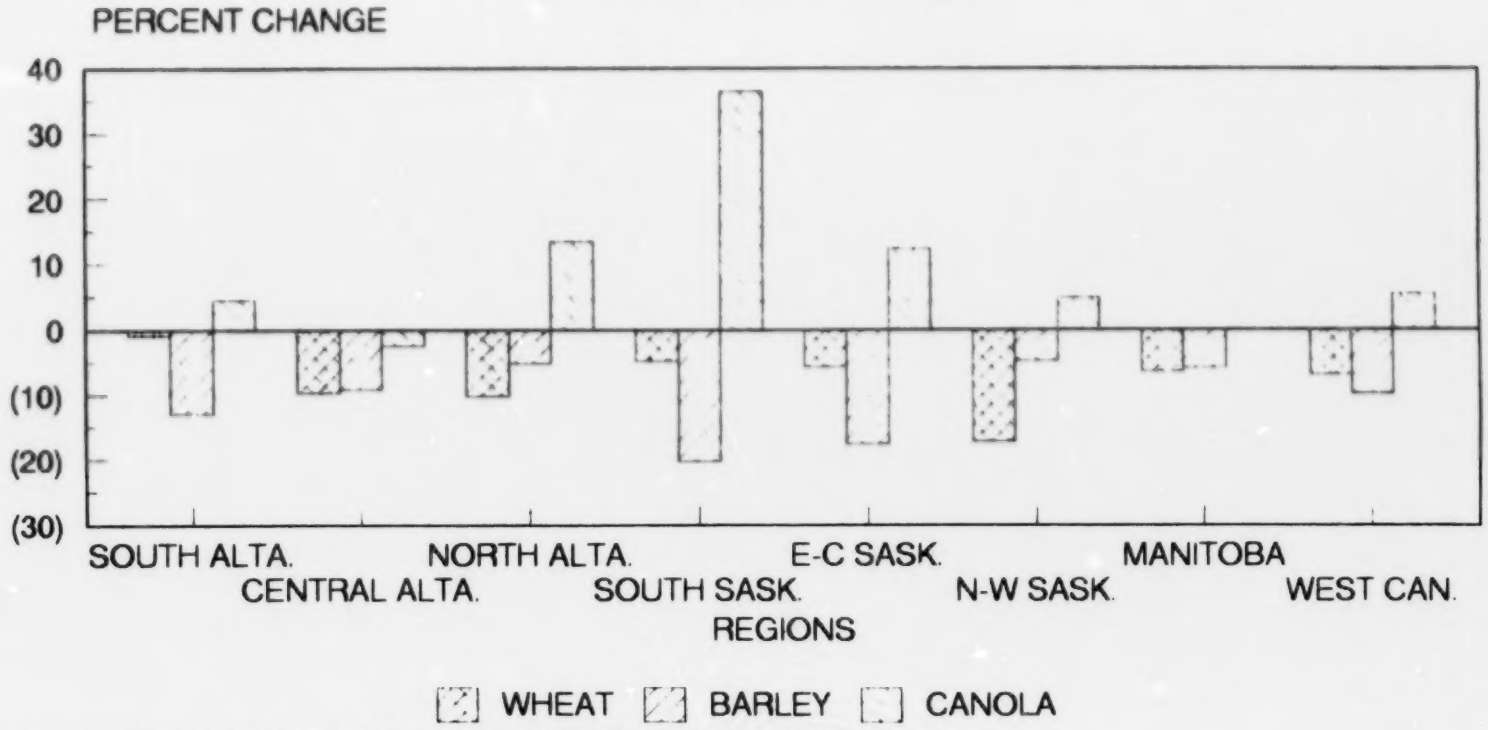
Livestock Production Responses by Region

With implementation of the proposal over 1980 to 1988, the beef cow herd would have increased annually on average by 11 percent (280,000 head) across the Prairie Provinces. This increase ranged from 1 percent in east central Saskatchewan to 29 percent in northern Alberta. The increases were small in the earlier years of the change, during which heifers were retained for breeding purposes. The upward movement in the cow herd in the latter years was much greater as resources would have been reallocated and the infrastructure expanded to facilitate change.

With the increase in cow herd and the reduction in barley prices, the costs of feeding cattle for slaughter would have been reduced.

FIGURE 2

REGIONAL CROP PRODUCTION CHANGES UNDER A CROW BENEFIT BUYOUT AND REFORMED RATE STRUCTURE PROPOSAL.



DATA ARE AVERAGES FOR LAST 5 YEARS OF SIMULATION

BASE TONNAGES (MILLIONS)								
WHEAT	2.79	1.77	0.59	3.92	4.65	2.41	3.52	19.66
BARLEY	1.81	3.02	0.81	0.45	1.46	1.01	1.47	10.04
CANOLA	.25	0.67	0.38	.04	0.89	0.65	0.57	3.45

Inventories of feeder cattle would have risen across the Prairies by 25 percent (450,000 head). The increase ranged from 1 percent in Manitoba to 35 percent in southern Saskatchewan. Southern Alberta showed the largest absolute increase with an additional 200,000 head, nearly 45 percent of the overall Western Canadian increase. This increase is not only a reflection of the region's infrastructure, but also of the relative location of the region to both the supply of feeders and the markets for beef.

The results of the analysis also indicate that the hog industry would have experienced an increase in sow numbers, averaging approximately 5 percent or 18,000 sows. This ranged from no change in northern Alberta to an increase of 13 percent in Saskatchewan. Figure 3 shows the changes in livestock numbers that would have occurred by region across the provinces.

Revenue Changes by Region

Grain enterprise revenue, inclusive of the historical Crow Benefit commitment and the cost savings in the grain handling and transportation system, would have increased by 2 percent or $105 million. Central Alberta and northwestern Saskatchewan showed declines of $24 million (3.5 percent) and $15 million (2 percent), respectively. East central Saskatchewan and southern Alberta showed the largest increases of $48 million or 5 percent and $48 million or 8 percent, respectively (see Figure 4). The increases exhibited in southern and northern Alberta, southern and east central Saskatchewan, and Manitoba are the result of increased oilseeds output and the non-Board and off-Board prices not dropping by the entire Crow Benefit due to local supply/demand conditions.

Livestock enterprise revenue would have risen in all regions with an average increase in Western Canada's annual livestock revenue of $589 million (17 percent). On a provincial basis, livestock revenue would have increased $34 million, $90 million and $466 million in Manitoba, Saskatchewan and Alberta, respectively.

Overall annual primary agriculture sector revenue would have increased by $695 million (8 percent). Provincially, the increases would have been $50 million, $136 million and $509 million in Manitoba, Saskatchewan and Alberta, respectively. Such increases represent significant gains in annual primary agriculture sector revenue under a buy out and revised grain handling and transportation system. Figure 5 depicts the net gains in agriculture revenue by province.

Gross Domestic Product and Employment

Under the proposal, there would not only be benefits to the Western Canadian primary agriculture sector, but to the Canadian economy in general. This is due to trade in commodities, intermediate inputs, and processed products occurring not only within or between the regions analyzed, but also between these regions and the rest of Canada.

Generally accepted Gross Domestic Product (GDP) multipliers for the economy are 1.1 to 1.2. The results of the study indicate that gross annual revenue would have increased $695 million per year in Western Canadian primary agriculture. As a result, the increase in Canada's annual GDP would have been $765 million to $834 million per year.

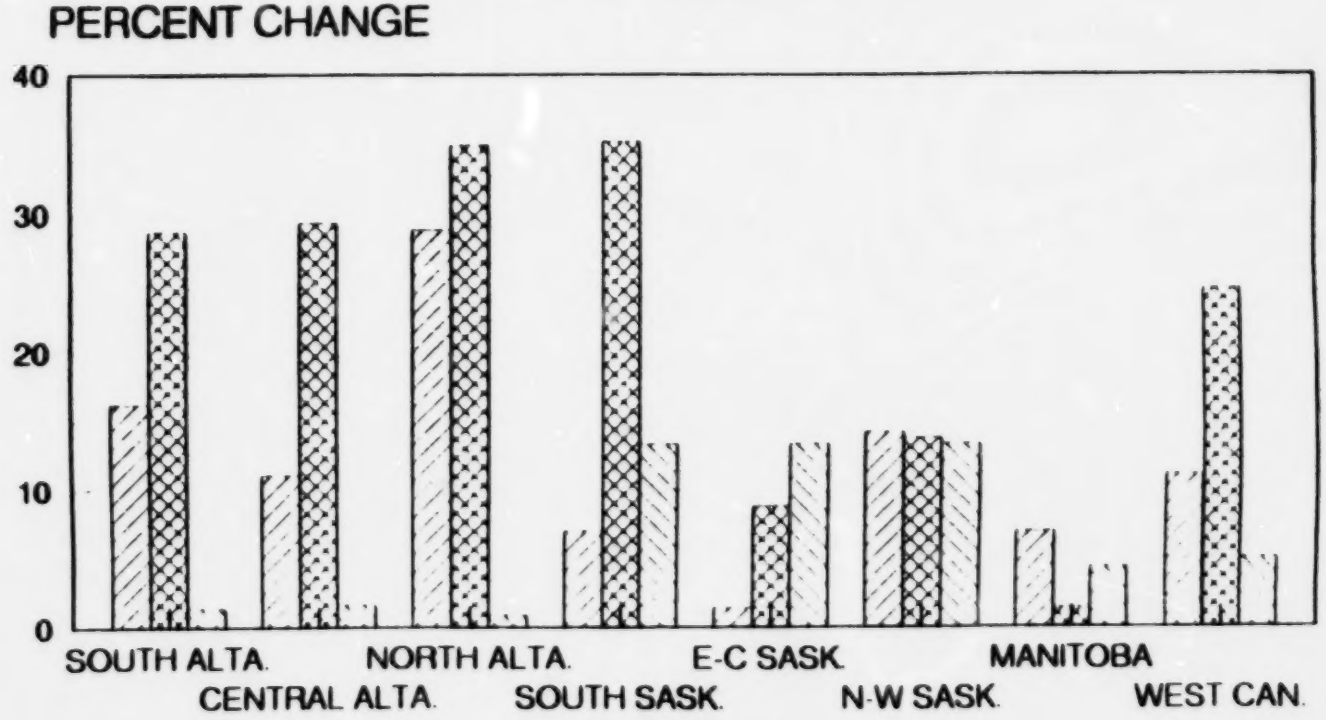
With such a significant increase in GDP, additional employment opportunities would have also developed. Rough estimates for employment multipliers suggest that for every increase in revenue of $110,000 to $200,000, one more job would be created. Consequently, a $695 million rise in annual primary agriculture sector revenue would have increased annual employment figures by 3,500 to 6,300 jobs.

Trade Policy

The method of paying the Crow Benefit subsidy under the WGTA has implications for

FIGURE 3

REGIONAL LIVESTOCK PRODUCTION CHANGES UNDER A CROW BENEFIT BUYOUT AND REFORMED RATE STRUCTURE PROPOSAL.

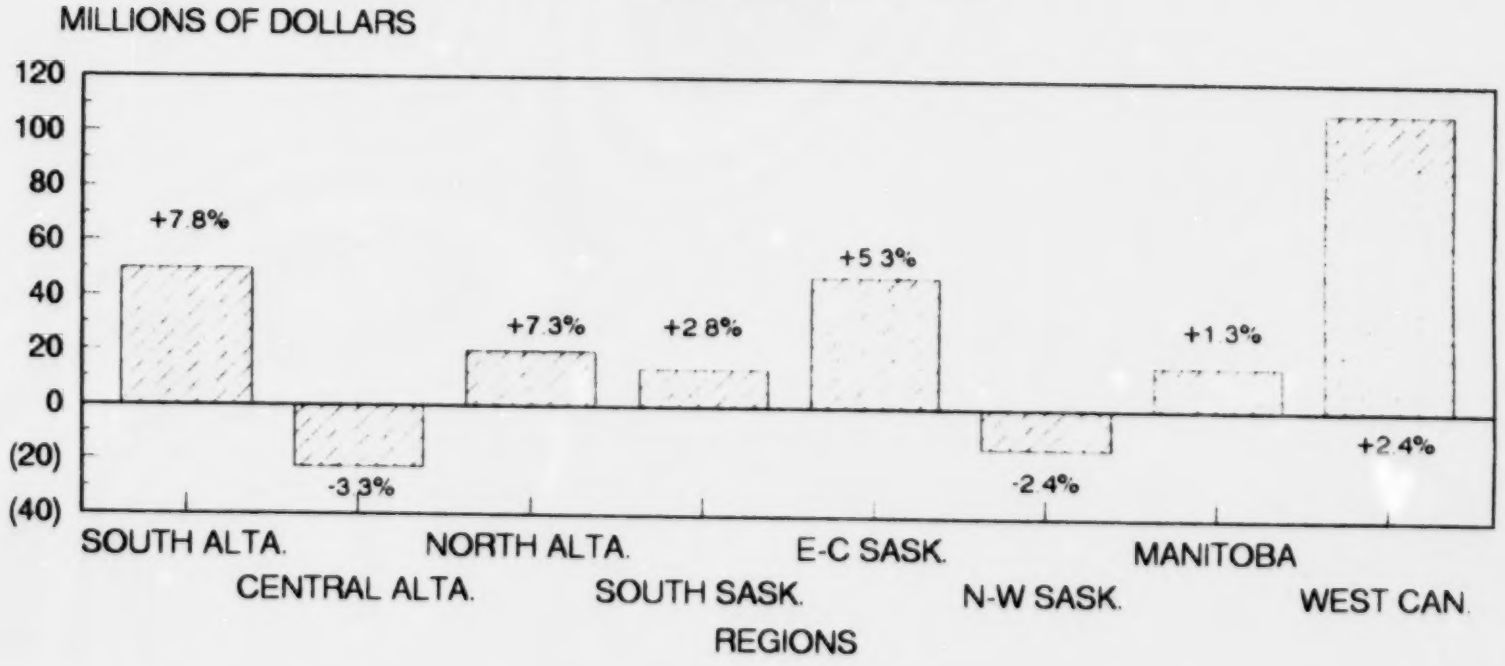


DATA ARE AVERAGES FOR LAST 5 YEARS OF SIMULATION

COWS	574	728	73	350	226	213	363	2527
FEEDERS	406	348	19	68	69	58	117	1085
HOGS	62	100	7		91		120	380

FIGURE 4

CHANGE IN GRAIN PRODUCERS' REVENUE UNDER A CROW BENEFIT BUYOUT AND A REFORMED RATE STRUCTURE PROPOSAL.

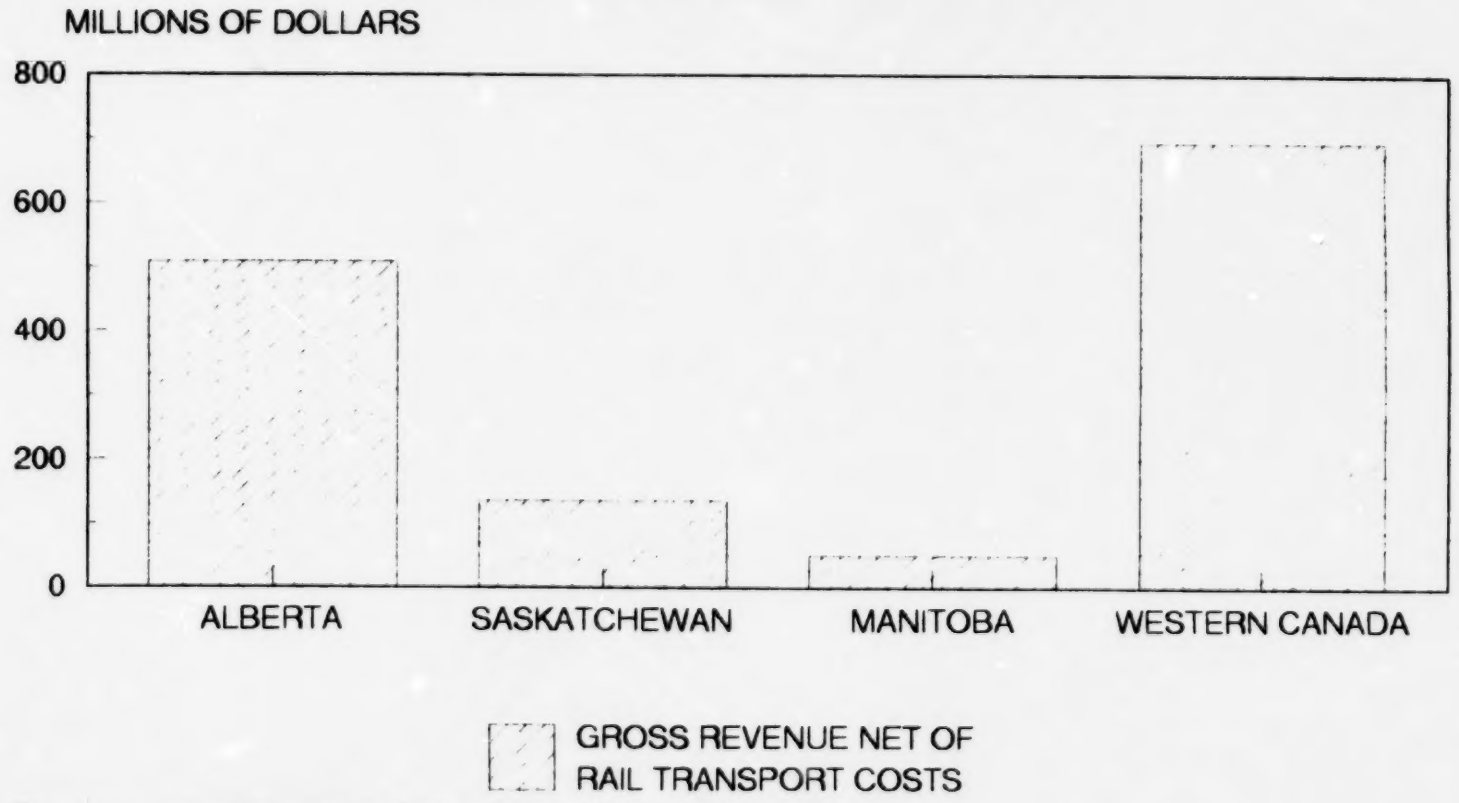


DATA ARE AVERAGES FOR LAST 5 YEARS OF SIMULATION

BASE REVENUES (BILLIONS)							
0.646	0.765	0.278	0.627	1.082	0.656	0.921	4.975

FIGURE 5

CHANGE IN PRIMARY AGRICULTURE ANNUAL GROSS REVENUE UNDER A BUY OUT AND REVISED GRAIN HANDLING AND TRANSPORTATION SYSTEM.



Figures are average annual changes over the last 5 years of the buy out period.

Canada's trade policies in relation to the Canada-U.S. Trade Agreement (CUSTA), the Multilateral Trade Negotiations (MTN) in GATT and the application of U.S. countervail law.

The Crow Benefit as currently paid is an input subsidy, making it vulnerable to trade actions under the provisions of GATT and U.S. countervail law. Under commitments likely to emerge from the current GATT Round, the WGTA program will likely be classified as a commodity-based input subsidy and, therefore, will be subject to reduction or phase-out over some specified period of time.

The risk of countervail action against subsidy payments under the WGTA is significant and, regardless of the outcome in GATT, it is this trade policy implication that is likely to be a key impetus to changes being required in the current method of paying the Crow Benefit.

Under the bond proposal for buying out the Crow Benefit, the essential implications are that:

—Under a likely GATT agreement, the buy out could fall under the "green" category (permitted policies not normally subject to GATT discipline). The length of the bond, 15 years, may move the proposal into the "amber" category (i.e., permitted, but disciplined, policies where the time requirements are negotiable).

—Under the CUSTA, the bond payment would be included in the calculation of total income transfers which are used in determination of relative grain support levels for the purpose of making decisions on retention or removal of CWB import licensing. U.S. quotas should not be affected by the provisions of the buy out bond.

—The basis of payment — arable acres within a defined area or region — would provide historic links between payments under the buy out and the grains sector. These links may be sufficient to provide grounds for applying countervail under U.S. countervail law but this is not certain. It could be excluded from countervail if the buy out is considered to be an adjustment program.

Taxation Level

The short run overall taxation implications of the cash stream under the proposal should not be large for the reason that the annual cash stream equates closely to payments being made annually under the present Crow Benefit system. However, for the individual, variation in tax implications could arise from differences in status, (e.g., landowner, landowner/producer tenant), from the marketing of production (e.g., export and/or domestic marketing) and from commodity production mix. In the long run, equating marginal revenue with marginal costs suggests minimal tax implications.

Rural Communities

In the development of the 1989 Alberta/British Columbia Method of Payment proposal, the University of Alberta evaluated the community impacts of paying the Crow Benefit to the producer. The approach used and the conclusions of the study are generally applicable to the buy out proposal.

The University researchers reviewed the effects that branch line abandonment and payment of the Crow Benefit to producers would have on rural communities. Their work concluded that the evolution of rural communities is a response to global forces. These include: increased commercialization of agriculture, farm consolidation, low commodity prices, improved highway networks, and the increased use of private automobiles. They concluded that the high profile of agricultural transportation issues such as branch line abandonment and elevator closure are not of primary importance in this evolution. Their conclusions indicate that even under a buy out option with accelerated branch line abandonment, the impacts on rural communities would be small. The negative impacts would be offset by factors

such as increased commercial trucking, stimulation of local entrepreneurs, and the appearance of small scale industrial diversification.

The work of the University of Alberta creates the impression that major technological forces cannot be denied and a policy which favours technical advance will be in the best interest of rural people in the long run.

Grain Handling And Transportation System

As a result of the proposed changes to the rate structure and the regulations related to grain transportation, it is anticipated that the rate of change in the grain handling and transportation system would increase. This would result in significant cost savings for shippers within ten years.

Improved Efficiency

Railways have improved their productivity to some degree over the past decade. With greater flexibility, it is anticipated that the rate of productivity improvement would increase to 1 percent a year from 0.5 percent a year. This would result in an additional 5 percent decline in costs over ten years. If the incremental cost reduction of 5 percent were applied to the total variable costs of $820 million, savings would be in the order of $35 to $40 million annually after ten years.

Branch Line Savings

The revised rate structure should accelerate branch line abandonment from 1 percent annually to 3.6 percent per year. In a ten year period, 30 percent of the branch lines could be abandoned rather than the 10 percent currently projected to be abandoned. The net savings from eliminating an additional 20 percent of line-related costs would be $18 million annually after ten years.

Increased Trucking

Some farmers would truck further as a result of branch line abandonment — some to capture incentive rates at highly efficient facilities, others because their delivery points have been closed. Farmers would experience an increase in the average distance that grain must be moved to reach rail siding.

In the proposed revised rate structure, it has been assumed that approximately half of Western Canadian grain production, or approximately 20 million tonnes, would be affected within 30 years and that, as a result of the consolidation of the elevator system, this grain would have to be trucked 40 miles as opposed to today's 15 miles to reach rail siding. In 10 years about 6 million tonnes would have to be trucked further as a result of abandonment.

Many farmers only consider their variable trucking costs when hauling grain and, therefore, conclude that they can haul cheaper than commercial truckers. However, when only part of the value of the vehicle and a modest return for operator labour are added to the variable costs of farm trucking, the cost of commercial trucking becomes economical. If the distance increased from 15 to 40 miles, the net cost of grain trucking, at commercial rates, would only increase by about $1.80 per tonne on the 6 million tonnes affected.

It has been estimated that for every 1 percent reduction in the branch line network, trucking costs increase by $550,000. The additional 20 percent reduction in branch lines resulting from implementation of this proposal would increase trucking costs by $11 million annually after ten years.

In terms of road impacts, the use of more commercial trucking should see fewer equivalent single axle loads (ESALS) on roadways. As most of the increased truck travel would take place on higher density roads, the impacts should be negligible.

Better Utilization of Hopper Cars

With reduced branch lines and less car spotting along remaining lines, improved utilization of hopper cars (five day improvement in average cycle times) and marshalling yards could be expected. This would reduce the hopper car purchases needed by the year 2000 from the 9,000 cars that the Grain Transportation Agency (GTA) has recommended to 2,000 cars. Annual savings as a result of this reduction in car requirements would be $46 million. Reduced switching costs would also result from the reduction in marshalling required with larger and fewer car spots. The savings from the reduced switching are difficult to identify but they are partially reflected in the increased productivity for railways identified earlier.

Reduced Crosshauls

Based on information provided by the CWB and NTA, it is evident that the CWB hauls about 1 million metric tonnes of wheat and barley from Alberta to Thunder Bay and a similar volume from Manitoba to Vancouver. When full rates come into effect, the cost of all crosshauling (including Saskatchewan) would increase from $13 million annually to about $50 million. It is anticipated that the Board would reduce crosshauls originating from Manitoba and Alberta. By shipping nearly all grain to the ports closest to Alberta and Manitoba, the CWB could reduce transportation costs by $29 million.

Elimination of Churchill Costs

The port of Churchill usually handles about 500,000 tonnes of grain exports annually. However, the port is not needed to handle current export volumes. The primary reasons for continuing to use Churchill reflect strategic and regional development concerns. When farmers pay the full freight rate after a change in method of payment, they should not be obligated to fulfill the responsibilities that properly belong to the Federal Government. The costs associated with maintaining the Churchill line should be removed from the cost base, saving shippers $5 million annually.

Reduced Elevator Numbers

The number of small elevators would be reduced through replacement by large facilities. For example, five smaller facilities in the 16,000 tonne throughput category could be replaced by one 80,000 tonne facility. Some of these larger elevators would be able to clean grain to export standards. More inland cleaning would reduce the total tonnage of low value dockage moving to the coast and thus increase the overall capacity of the fleet.

Elevator rationalization and consolidation would not likely reduce the average tariffs that are applied. This is largely the result of the fact that tariffs on primary elevator service have been kept low over the past few years. Companies would find it difficult to fund the construction of new facilities and the upgrading of older facilities if tariffs were reduced from current levels.

Furthermore, increasing the number of days that rail cars can be loaded and increasing the hours per week that elevators accept deliveries would result in increased labour costs. It is expected that the benefits elevator companies would receive from fewer elevator locations would be invested in larger structures to make them more efficient.

Environmental Sustainability

Sustainability of agriculture is one of the four pillars of the federal-provincial agriculture policy review currently underway. In the document "Growing Together", two major farm support programs were identified as being problematic:

> The WGTA and the WGSA, in their attempts to support current farm operations, tend also to encourage monocultures, reduce diversification and increase long term financial risk faced by farmers.

The Crow Benefit subsidy, in particular, has artificially increased the margin from producing grain for export. This has contributed to the expansion of cropped areas in Western Canada. Between 1971 and 1986, improved farm area increased only 8 percent, while in the same period, the area cropped increased 22 percent. A significant portion of the expansion of cropped area has occurred on marginal land which is susceptible to wind erosion. The Crow Benefit has also encouraged the draining of wetlands and sloughs to the detriment of wildlife/waterfowl.

Associated with the expansion of cropped area has been a reduction in the use of forages in crop rotations as livestock production has become a less common activity in many regions. Reduced forage and livestock production have had negative impacts on the level of organic matter in the soil and have resulted in exposure of soil to wind and water erosion.

Under a Crow Benefit buy out, land use patterns would reflect price signals from the market. Marginal lands would be returned to pasture in some areas. Livestock production would expand with consequent increases in forage production and nutrient recycling. The incentive to expand grains production onto marginal land and wetlands would be reduced.

In areas where there are few options besides producing wheat in a fallow rotation, lower margins from grain production could encourage greater use of summerfallow. However, under a buy out, landowners would have a significant amount of capital in the form of their bonds. This could be invested in switching to more environmentally sound low tillage or chemical fallow practices or be used to move out of grains production.

In general, the buy out should help to improve the sustainability of agriculture because it would eliminate the incentive to use low intensity monoculture systems at the expense of more environmentally sound mixed agriculture systems.